REMARKS

In the office action, claims 1-5, 8, 15, 18, 19, and 20 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Publication No. 2003/0057318 to Struzik et al. ("Struzik et al."). Claims 1, 4, 11, 18, 19, and 20 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,228,640 to Mouille ("Mouille"). In addition, claims 6, 7, and 13 were rejected under 35 U.S.C. §103 as being unpatentable over Struzik et al. and claims 6 and 7 were further rejected under 35 U.S.C. §103 as being unpatentable over Mouille. Finally, claims 9, 10, 12, 14, 16, and 17 were deemed to be allowable if rewritten in independent form.

In this response, Applicants have not made any amendments, but resubmit claims 1-20 for reconsideration and request withdrawal of the rejections in view of the following remarks.

A. Rejections under 35 U.S.C. §102(e):

Claims 1-5, 8, 15, 18, 19, and 20 were rejected under 35 U.S.C. §102(e) as being anticipated by Struzik et al.

Struzik et al. describes an energy-absorbing connecting strut 13 for use as a gearbox suspension strut for rotary wing aircraft. The connecting strut 13 includes a substantially straight rigid body 14 having at least one buckling portion 17 with a calibrated buckling corresponding to a compressive load threshold, at least one hollow portion 19 housing at least one component 20 absorbing energy by plastic deformation in compression and at least one piston 23 facing the energy-absorbing component 20. The piston 23 moves integrally with a rigid axial end part 18 of the body 14, so that under a compressive load greater than the compression threshold, the buckling portion 17 deforms causing an axial shortening of the connecting strut 13 and movement of the piston 23 with the rigid axial end part of the body 18 so that the piston 23 crushes and plastically deforms the energy-absorbing component 20. See Struzik et al., paragraph [0023].

Independent claim 1 of the present invention recites an impact-absorbing, load-limiting connection device that includes:

> a first connection structure;
> a second connection structure, at least one of the first and second connection structures being moveable with respect to the other in a predetermined direction of movement corresponding to an anticipated main impact direction;

a guiding mechanism configured to guide at least one of the first and second connection structures along the direction of movement, the guiding mechanism including at least one transverse force-absorbing guide element configured to absorb a force in a direction transverse to the direction of movement; and

at least one impact-absorbing, load-limiting sacrificial element disposed between the first connection structure and the second connection structure and uncoupled from a transverse load path of the transverse force-absorbing guide element, wherein the sacrificial element is configured to be deformed and destroyed by a relative movement between the first and second connection structures in the direction of movement upon application of a predetermined maximum load.

Applicants respectfully submit that Struzik et al. does not describe at least "a transverse force-absorbing guide" as that feature is recited in claim 1. In the office action, the Examiner has deemed the piston 23 to correspond to that feature. However, Applicants respectfully submit that the piston is not configured to "absorb a force in a direction transverse to the direction of movement." Rather, upon impact in an axial direction of the strut (when the compressive load exceeds the compression threshold), portion 17 buckles, causing an axial shortening of the strut 13 and therefore movement of the piston 23 in an axial direction (together with the rigid upper end part 18 of body 14). The axial movement of the piston 23 crushes the energy-absorbing component 20 axially against its base 22 so that energy is absorbed by a plastic deformation of the component 20 in the axial direction. See Struzik et al., paragraph [0058] and Figs. 3-5.

Thus, Struzik et al. does not describe any "force acting in a direction transverse to the direction of movement" but only a compressive force acting in the *same* (axial) direction of the direction of movement. Struzik et al. therefored does not -- and cannot -- describe any structure configured to absorb such nonexistent transverse force. Moreover, the Struzik et al. piston 23 is not configured to absorb any force at all, but rather to remain rigid and to move axially in response to the compressive force and against energy-absorbing component 20. Furthermore, energy-absorbing component 20 absorbs energy from a force acting in the same direction as the direction of impact. A strut, by its very nature, is configured to absorb forces only in a direction along its axis and not in a direction transverse to its axis. The Struzik et al. strut, with its eyelit fittings 15 and 16 for connecting to a bolt or lug, is no exception.

In addition, Applicants submit that Struzik et al. does not describe the recited features of first and second connection structures moveable with respect to each other in a direction of

impact. On the contrary, the structure identified by the Examiner (rigid upper end part 18, tubular part 19 and truncated cone shaped tubular part 21), are all part of one and the same integral part, namely body 14, as is the intermediate portion 17. Only through plastic deformation of the buckling portion 17 in the event of a crash do the relative positions of end portion 18 and tubular parts 19 and 21 change. To describe two ends of the same part moving toward each other by a plastic deformation of an intermediate portion of the same part, cannot mean that the ends are "moveable with respect to each other" as that phrase properly construed.

Moreover, Applicants submit that Struzik et al. does not describe the load limiting sacrificial element recited in claim 1. Buckling portion 17 of Struzik et al, suggested by the Examiner as corresponding to that element, is not "disposed between" two moveable connection structures as required by claim 1, (identified by the Examiner as portion 18 on the one hand and portions19, 21 on the other hand). Rather, buckling portion 17 is merely an intermediate portion of the same body 14 and is integral with those "connection structures". Moreover, even interpreting a "transverse load" to mean a load acting axially along the Struzik et al. strut (which Applicants dispute), then the buckling portion 17 is not "uncoupled from a transverse load path," but rather in the direct path of that load.

Nor does energy-absorbing component 20 of Struzik et al. meet the limitations for the load limiting sacrificial element recited in claim 1. Component 20 is also not "disposed between" the two moveable connection structures (portion 18 and portions19, 21 of body 14). Moreover, component 20 is also not "uncoupled from a transverse load path of the transverse force-absorbing guide element". Following the Examiner's interpretation, component 20 is not "uncoupled" from the load path of the piston 23, but rather specifically positioned to be crushed by the piston 23.

Accordingly, withdrawal of the rejections to independent claim 1 and to dependent claims 2-5, 8, 15, 18, 19, and 20 is respectfully requested.

B. Rejections under 35 U.S.C. §102(b):

Claims 1, 4, 11, 18, 19, and 20 were rejected under 35 U.S.C. §102(b) as being anticipated by Mouille.

Mouille describes a device for the elastic coupling between two parts, such as the principle transmission box and the fuselage of a rotary wing aircraft. The device is designed to

filter the vibrations engendered by the rotor and transmitted to the fuselage of the aircraft by the transmission box. See Mouille, column 1, lines 14-19.

Applicants respectfully submit that Mouille relates to a completely different device than that recited Applicants claims. The Examiner has not provided any description of which elements of the device in Mouille correspond to the features of the claims. Applicants further submit that several of the features recited in independent claim 1 are missing from Mouille. For example, Mouille relates to a device for "elastically" coupling two parts, and does not describe (or suggest) the feature of a "impact-absorbing, load-limiting sacrificial element" as recited in claim 1 and as properly construed.

Withdrawal of the rejections to claims 1, 4, 11, 18, 19, and 20 under 35 U.S.C. §102(b) is respectfully requested.

C. Rejections under 35 U.S.C. §103:

Claims 6, 7, and 13 were rejected under 35 U.S.C. §103 as being unpatentable over Struzik et al. and claims 6 and 7 were further rejected under 35 U.S.C. §103 as being unpatentable over Mouille.

Applicants respectfully submit that Struzik et al. does not suggest many of the features of claim 1. For example, by describing a device that is only capable of absorbing compressive forces (i.e. forces in a direction of impact), Struzik et al. actually teaches away from the feature of a "transverse force-absorbing guide" as recited in claim 1. Likewise Mouille, which teaches only elastic coupling between parts, teaches away from the feature of an "impact-absorbing, load-limiting sacrificial element" recited in claim 1.

Withdrawal of the rejections to s 6, 7, and 13 under 35 U.S.C. §103 is respectfully requested.

Conclusion

Reconsideration of the present application, as amended, is requested. If, upon review, the Examiner is unable to issue an immediate Notice of Allowance, the Examiner is respectfully requested to telephone Applicant's undersigned attorney in order to resolve any outstanding issues and advance the prosecution of the case.

An early and favorable action on the merits is earnestly solicited.

Respectfully Submitted,
DAVIDSON, DAVIDSON & KAPPEL, LLC

By: _____
Robert J. Paradiso, Reg. No. 41,240
(signing for Thomas P. Canty, Reg. No. 44,586)

Davidson, Davidson & Kappel, LLC
485 Seventh Avenue, 14th Floor
New York, NY 10018
(212) 736-1940